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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/584,305

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Satoshi Suda

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09/17/2010

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EXAMINER

VASISTH, VISHAL V

ART UNIT

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1797

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**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/584,305	<b>Applicant(s)</b> SUDA ET AL.	
	<b>Examiner</b> VISHAL VASISTH	<b>Art Unit</b> 1797	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 28 July 2010.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 10-19 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 10-19 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \*    c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |   |   |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

## **DETAILED ACTION**

### ***Response to Amendment***

1. Applicants' response filed on 7/28/2010 amended the scope of independent claim 10 and added new, independent claim 19. For reasons discussed below applicants' amendment to independent claim 10 does not overcome the 35 USC 102 rejection over Konishi or the 35 USC 103 rejections over Garmier in view of Konishi and Konishi in view of Yokota from the office action mailed on 11/9/2009.

### ***Claim Objections***

2. Claim 12 is objected to under 37 CFR 1.75(c), as being of improper dependent form for failing to further limit the subject matter of a previous claim. Applicant is required to cancel the claim(s), or amend the claim(s) to place the claim(s) in proper dependent form, or rewrite the claim(s) in independent form. Claim 12 no longer limits independent claim 10 which has a narrower limitation than does claim 12. Any reference reading on claim 10 will automatically read on claim 12 which is dependent from claim 10.

3. Claim 19 is objected to because of the following informalities: the claim instantly recites, "the trimester having a kinematic viscosity . . ." wherein it should read, "the triester having a kinematic viscosity . . ." Appropriate correction is required.

***Claim Rejections - 35 USC § 102***

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

5. Claims 10-19 are rejected under 35 U.S.C. 102(b) as being anticipated by Konishi et al., US Patent No. 6,300,292 (hereinafter referred to as Konishi).

Konishi discloses a composition with a degree of unsaturation of 0.3 or less (as recited in claim 10) (Col. 11/L. 13-23) comprising a modified vegetable oil such as a genetically modified high oleic sunflower oil (triester of fatty acids and glycerin as recited in claim 10) having an oleic acid profile of 80 wt% (within the range as recited in claim 10), a linoleic acid profile of 8 wt% (within the range as recited in claim 12), a palmitic acid content of 7 wt% (within the range as recited in claims 13-14) (Col. 13-14/Tables 1-3) and a kinematic viscosity of 40 measured at 40°C (as recited in claims 10 and 19) (Col. 13/Table 1).

The composition of Konishi further comprises additives such as pour point depressants, antioxidants and 0.1 to 1.0 mass% of rust preventives such as phosphates (phosphoric acid ester as recited in claim 10) (Col. 11/L. 24-34) and additional synthetic ester base oils including 50 mass% or less of diester base oils (as recited in claim 15) (Col. 3/L. 7-12), and/or mineral oils (hydrocarbon oil as recited in claim 11) (Col. 8-9/L. 13-30). Based on the disclosure of 50 mass% or less of the diester oils, it is inherent

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that the modified vegetable oils can be present up to 50 mass% as well which is within the range recited in claims 10-11.

Konishi discloses that the lubricant composition is useful in applications including hydraulic fluids amongst others. Konishi further discloses all of the limitations of the instant claims and therefore inherently could be used as a cutting/grinding/roll forming oil (as recited in claim 16) or a metal working oil (as recited in claim 17) and/or an oil for metal working with a minimal quantity lubricant system (as recited in claim 18).

### ***Claim Rejections - 35 USC § 103***

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

8. Claims 10-18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Garmier et al., US Patent No. 6,383,992 (hereinafter referred to as Garmier) in view of Konishi.

Garmier discloses a composition comprising a modified vegetable oil such as 45 to 75 wt% of a genetically modified sunflower oil (triesters of fatty acids and glycerin as recited in claim 10 and within the range as recited in claim 11) having an oleic acid profile of 70.0 wt% (within the range as recited in claim 10), a linoleic acid profile of 7.0 wt% (within the range as recited in claim 12) and a palmitic acid profile of 13 wt% (within the range as recited in claims 14-15) (Col. 10-11/Table 1 and Col. 5/L. 44-47). The composition of Garmier further comprises additives such as pour point depressants, antioxidants, 0.2 wt% of a dithiocarbamate (Col. 11-12/Table 2) and additional synthetic ester base oils including mono- and diester base oils (as recited in claim 15), and/or polyalphaolefins (hydrocarbon oil as recited in claim 11) (Col. 8-9/L. 13-30). It is the position of the examiner that although Garmier does not disclose which metal is complexed with the dithiocarbamate disclosed it would have been obvious to one of ordinary skill in the art at the time of the invention to try both zinc and molybdenum dithiocarbamates with a reasonable expectation of success.

Garmier discloses that by chemically modifying sunflower oil by hydrogenation, it is meant that hydrogen is permitted to react with the unsaturated fatty acid profile present such as oleic acid, linoleic acid and linoleic acid. The object is not to remove all the unsaturation. Further, the object is not to hydrogenate such that the oleic acid profile is reduced to a stearic acid profile. The object of chemical modification via

hydrogenation is to engage the linoleic acid profile and reduce or convert a substantial portion of it to an oleic acid profile (Col. 4/L. 27-35). Garmier does not, however, explicitly disclose the degree of unsaturation being below 0.3.

Konishi discloses a composition with a degree of unsaturation of 0.3 or less (as recited in claim 10) (Col. 11/L. 13-23) comprising a modified vegetable oil such as a genetically modified high oleic sunflower oil having an oleic acid profile of 80 wt% (within the range as recited in claim 10), a linoleic acid profile of 8 wt% and a palmitic acid content of 7 wt% (Col. 13-14/Tables 1-3). It would have been obvious to one of ordinary skill in the art at the time of the invention to use the degree of unsaturation disclosed in Konishi for the triester of Garmier in order to enhance the oxidative stability properties of the composition (Col. 1/L. 55-62 of Konishi).

Garmier/Konishi disclose that the lubricant composition is useful in applications including hydraulic fluids amongst others. Garmier/Konishi further disclose all of the limitations of the instant claims and therefore inherently could be used as a cutting/grinding/roll forming oil (as recited in claim 16) or a metal working oil (as recited in claim 17) and/or an oil for metal working with a minimal quantity lubricant system (as recited in claim 18).

### ***Claim Rejections - 35 USC § 103***

9. Claims 15-18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Konishi in view of Yokota et al., US Patent Application Publication No. 2002/0035043 (hereinafter referred to as Yokota).

Konishi discloses all of the limitations discussed above. Konishi further discloses a hydraulic fluid composition that can be used in construction machines, steel molding, machine tools etc. Konishi does not, however, explicitly disclose the composition being used in cutting/grinding/roll forming oil (as recited in claim 16) or a metal working oil (as recited in claim 17) and/or an oil for metal working with a minimal quantity lubricant system (as recited in claim 18) applications.

Yokota discloses a cutting or grinding oil composition (as recited in claim 16) which are suitable for use in a minimal quantity lubrication system (as recited in claim 18) (see Abstract) which can be used to lubricate a metal piece to be cut or ground (as recited in claim 17 (Para. [0001]) comprising high-oleic rape or high-oleic sunflower oil as a base oil along with auxiliary additives. It would have been obvious to one of ordinary skill in the art at the time of the invention to use the composition of Konishi in the applications of Yokota because the compositions are fully capable of performing the functions of Yokota.

### ***Response to Arguments***

10. Applicants' arguments filed on 7/28/2010 with respect to claims 10-19 have been considered and are not persuasive.

Applicants argue that the present invention provides unexpected results and point to data in the specification and a Declaration signed by Satoshi Suda on 2/9/2010 to support their position. Applicants' arguments are not persuasive.



Firstly, the claims are not commensurate in scope with the data provided. For example, the example oils of the instant application use very specific base oils that are limited by type of base oil used, i.e., concentration, viscosity, viscosity index, acid value and iodine value. Instant claims 10 and 19 do not recite many of these limiting properties. Furthermore, the degree of unsaturation and oleic acid content are much broader in the claims than they are in instant specification, Tables 2-5. Also, the additives used in the example formulations of the instant specification are much narrower than the broad recitation of nearly every phosphorus or sulfur-containing additive known for use in lubricants and in many of the example formulations a combination of additives are used. Also, the concentrations in the example formulations of the instant specification for the additives is much narrower than what is recited in the instant claims.

Furthermore, based on the amendments to the instant claims many of the example formulations are now no longer within the claim limitations and still demonstrate excellent results - such as all of the example oils from Example 19-30 from the instant specification. It is therefore evident that the example formulations do not demonstrate unexpected results at all. It is not unexpected for genetically modified base oils to have excellent properties when compared to a standard synthetic base oil wherein the same concentration of additives is present in each formulation as is shown in Table 7.

The Declaration does show how a triester with no greater than 0.3 degrees of unsaturation and 5 wt% of a specific additive can show good abrasion resistance, but

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the claims are not commensurate in scope with the data provided in the Specification or the Declaration.

Applicants have compared their results to the closest prior art which in this case would be Konishi.

### ***Conclusion***

11. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to VISHAL VASISTH whose telephone number is (571)270-3716. The examiner can normally be reached on M-R 8:30a-5:30p.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Glenn Caldarola can be reached on (571)272-1444. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

VVV

/Ellen M McAvoy/  
Primary Examiner, Art Unit 1797